



FEE TRANSMITTAL for FY 2003

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT (\$)

Complete if Known

Application Number 09/476,633
Filing Date December 31, 1999
First Named Inventor Li-Shun Wang
Examiner Name Garcia, J.
Group/Art Unit 2823
Attorney Docket No. 42390P7832

METHOD OF PAYMENT (check one)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☒ None
☐ Deposit Account

Deposit Account Number

02-2666

Deposit Account Name

Blakely, Sokoloff, Taylor & Zafman LLP

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments
☒ Charge any additional fee(s) required under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20.
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	740	2001	370	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	510	2003	255	Plant filing fee	
1004	740	2004	370	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$)

2. EXTRA CLAIM FEES

Total Claims - 21 = X =
Independent Claims - 3 = X =
Multiple Dependent

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	84	2201	42	Independent claims in excess of 3	
1203	280	2203	140	Multiple Dependent claim, if not paid	
1204	84	2204	42	**Reissue independent claims over original patent	
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$)

**or number previously paid, if greater, For Reissues, see below

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
2053	130	2053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920 *	1804	920 *	Requesting publication of SIR prior to Examiner action	
1805	1,840 *	1805	1,840 *	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	400	2252	200	Extension for reply within second month	
1253	920	2253	460	Extension for reply within third month	
1254	1,440	2254	720	Extension for reply within fourth month	
1255	1,960	2255	980	Extension for reply within fifth month	
1404	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	2451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,280	2453	640	Petition to revive - unintentional	
1501	1,280	2501	640	Utility issue fee (or reissue)	
1502	460	2502	230	Design issue fee	
1503	620	2503	310	Plant issue fee	
1460	130	2460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	740	1809	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	740	2810	370	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	740	2801	370	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

SUBMITTED BY

Complete (if applicable)

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Signature

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Date

11/19/02

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NOV 25 2002
PATENT & TRADEMARK OFFICE
11/19/02

Our Ref. No.: 42390P7832

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Li-Shun Wang, et al.

Application No.: 09/476,633

Filed: December 31, 1999

For: REMOVAL OF RESIDUE FROM A
SUBSTRATE

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)
) Examiner: Garcia, J.
)
)

) Art Unit: 2823
)
)
)
)

Assistant Commissioner for Patents
Washington, D.C. 20231

#20
Reply Brief
J. M. Amillion
12/17/02
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TECHNOLOGY CENTER 2800

REPLY BRIEF

Appellants submit, in triplicate, the following Reply Brief pursuant to 37 C.F.R. § 1.193(b) for consideration by the Board of Appeals and Interferences. The Reply is responsive to the Examiner's Answer.

ARGUMENT

Claim Rejections Under 35 U.S.C. § 102(e) and 103(a)

In numbered paragraph 11 of the Examiner's Answer, the Examiner maintains the position that Kishii discloses rinsing with an agent comprising hydrogen peroxide. The Examiner draws this conclusion from the fact that "cleaning," as defined in Exhibit A of Appellants' Appeal Brief, and "rinsing," as defined in Exhibit B, are both related to the removal of contaminants/substances from a wafer surface.

In response, Appellants first note that the limitations at issue are not directed toward the removal of contaminants or substances. Appellants submit that the Examiner is improperly replacing the term "rinse" with the term "remove" simply because some derivative of the word "remove" is present in both definitions for the terms "cleaning" (Exhibit A) and "rinsing"

Noted
JAG
2-13-03

6.4.8.3-7
Kishij et al.
(Exhibit B). Rather, the limitations at issue are directed towards rinsing with an agent comprising hydrogen peroxide, which is neither taught nor suggested by Kishij.

Specifically, Kishij discloses a chemical mechanical polish process using abrasives of MnO_2 , Mn_2O_3 , or Mn_3O_4 , which are soluble to an acid, and in order to remove the residual abrasives remaining in the substrate, Kishij suggests using an acid cleaning process (Col., 14, lines 53-57). Kishij discloses a suitable acidic cleaning solution containing HCl (hydrochloric acid), H_2O_2 , and H_2O with a volumetric ratio of 1:1:48 (Col. 14, lines 57-59). Thus, Kishij discloses an acidic cleaning solution to chemically react with the remaining abrasive products of the chemical mechanical process, which fits squarely into the definition of "cleaning" in Exhibit A (e.g., removing contaminants with liquid chemicals).

However, conducting a chemical process to remove contaminants, as disclosed in Kishij, does not teach or suggest rinsing with an agent comprising hydrogen peroxide, wherein the rinse does not chemically react with the contaminants/substances to be removed. Rather, the term "rinse," as defined in Exhibit B and used in Appellants' claims, refers to the removal of products with a solution containing water. No chemical reaction with the contaminants/substances to be removed is stated or inferred by the definition or the usage of the term "rinse" in Appellants' claims.

Moreover, the hydrogen peroxide in the rinse is not meant to react with the contaminants/substances to be removed. This is evidenced by Appellants' specification, which indicates that the amount of hydrogen peroxide in the solution is limited by the effect of the hydrogen peroxide on the underlying metal layer (e.g., no reaction with the contaminants/substances to be removed) (emphasis added) (Appellants' specification, page 8, lines 17 and 18).

In light of the foregoing, Appellants respectfully submit that Kishij fails to teach or suggest a rinse comprising hydrogen peroxide, as recited in Appellants' claims. Thus, all rejections of Appellants' claims should be overturned.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph

In maintaining the rejection of Appellants' claims under 35 U.S.C., first paragraph, the Examiner states that there is no support in Appellants' specification for an "agent" or "solution" "consisting of" hydrogen peroxide. However, the Examiner acknowledges that the specification does contain support for an aqueous solution of H₂O₂ (e.g., hydrogen peroxide) and deionized water. The Examiner further states that there is no support for solutions that contain molten hydrogen peroxide, which is solid at room temperature.

Not support for hydrogen peroxide ONLY

In response, Appellants first note that, as pointed out by the Examiner, the specification does disclose "solutions" that contain hydrogen peroxide. Moreover, the specification indicates that the solution used to rinse the substrate is also referred to in the specification as an "agent" (Appellants' specification, page 8, line 9). Thus, Appellants submit that the specification provides adequate disclosure for both a "solution" and an "agent" that contains hydrogen peroxide.

Furthermore, due to the nature of a solution, a solvent is necessarily a component of the solution that need not be recited after the transitional phrase. In light of the specification and the common usage of the term "solution," it would be improper to read the claims that recite a "solution" or an "agent" as not containing a solvent. Therefore, Appellants submit that the rejected claims are not directed towards the use of solid hydrogen peroxide without a solvent, as suggested by the Examiner.

NO disclosure for water

he does not mention water as such solvent

Finally, Appellants contend that it is Appellants' right to claim the components of a properly disclosed solution or agent in an open-ended fashion (e.g., comprising) or in a manner that precludes the addition of other components to the solution or agent (e.g., consisting of) (MPEP 2111.03).

Accordingly, Appellants respectfully request that all rejections under 35 U.S.C. 112, first paragraph, be overturned.

CONCLUSION

For the reasons specified above, the rejection of all claims should be overturned and the claims allowed.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Dated: November 19, 2002



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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited as First Class Mail with the United States Postal Service in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on November 19, 2002.



Lillian E. Rodriguez

11-19-02
November 19, 2002